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ABSTRACT

This paper contains a report of a theoretical investigation of contextual analysis (CA) that ranked this reading strategy as the most complex of four kindred word recognition skills although many current reading programs advance its use in the beginning stages of formal reading instruction. Three propositions are offered: CA holds kinship with the three other word recognition skills; CA employs interword synthesis (five processes) and intraword analysis while the kindred word recognition skills employ solely intraword analysis; and CA requires advanced logical operations characteristic of Jean Piaget's paradigm of cognitive development, namely, transivity, combinativity, and reversibility--operations not used in the employment of the three other kindred word recognition skills. The paper describes the parameters of CA, generates hypotheses, and invites research to seek empirical evidence, which if conclusive, should guide pedagogy to teach CA as an advanced reading skill for the nascent reader. (Author/TJ)

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CONTEXTUAL ANALYSIS: INVITATION TO RESEARCH

Theoretical Paper

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ABSTRACT

This theoretical investigation of contextual analysis (CA) seeks to rank this reading strategy as the most complex of all four kindred word recognition skills. Many current reading programs advance its use for the nascent reader in the beginning stages of formal reading instruction. Because of the incongruity, the asserted complexity and the suggested use of the strategy for the nascent reader, the investigation seems warranted.

Three propositions are purported in this investigation.

1. CA holds kinship with the three other word recognition skills. All word recognition skills target words for re-cognition which are in the reader's lexicon; his listening and speaking vocabulary.
2. CA employs inter-word synthesis (five processes) and intra-word analysis. The kindred word recognition skills employ solely intra-word analysis.
3. CA requires advanced logical operations characteristic of Piaget's paradigm of cognitive development; namely, transivity, combinativity, and reversibility. These operations are not used in the employment of the other three kindred word recognition skills.

Hence, parameters of CA are described. Hypotheses are generated and research is invited to seek empirical evidence, which if conclusive, should guide pedagogy to teach CA as an advanced reading skill for the nascent reader.

CONTEXTUAL ANALYSIS: INVITATION TO RESEARCH

Contextual analysis has been learned, accrued, and employed with ease by proficient readers. Many reading programs advance its use in the beginning stages of formal reading instruction. The apparent ease with which it is advanced suggests an equal ease in the grasp of the strategy. Such is not the case as viewed by this investigator. Context is convoluted, many faceted, and contingent upon the facile use of lesser-ordered reading strategies. The strategy is complex in demanding syntactical structuring of the context, semantic assessment of the context, and a synthesis of these processes in order to generate a cloze-like structure embracing the targeted unrecognized word as a blank. Because of the seeming incongruity, the apparent ease of advancing the employment of contextual analysis by nascent readers and the asserted view of its complexity, the purpose to explore the strategy seems warranted.

The purpose of this investigation, then, is to describe the parameters of contextual analysis, generate hypotheses to be tested, and invite research to empiricize findings whose pedagogical implications would teach contextual analysis as an advanced reading skill for nascent readers. This investigation seeks to rank the strategy of contextual analysis as the most complex of all the word recognition skills. Regardless of how complex the strategy may be, contextual analysis is viewed herein to be one of the word recognition

skills.

Word recognition skills are strategies employed by a reader to recognize a word; that is to re-cognize a word familiar in its spoken form but unfamiliar in its written/printed form; meaning of the word is implicit.

That a dichotomy of reading skills may exist must be addressed. Are there two congeries of reading skills, word recognition and comprehension? Many authorities (Goodman, 1972; Smith, 1973) view the reading act as holistic and characterize the suggested dichotomy as a false one. Other authorities (Samuels, 1974; Guthrie, 1973; May, 1973) view the reading act as an accumulative, developmental, integrated process of many subskills. These subskills are strategically employed, singularly or in combination, when needed. It is the latter view which frames this investigation.

This investigation will describe the parameters and complexity of contextual analysis by adhering to the outline delineated.

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Three Propositions of Investigation

This investigation of contextual analysis purports to advance

the following propositions:

1. Contextual analysis, as one of the word recognition skills, targets a word for the employment of the strategy. The targeted word is within the reader's lexicon but not recognized in the secondary aspect of the language, that is, the written/printed form.
2. Contextual analysis employs inter-word synthesis and intra-word analysis as the method of its search for recognition of a given target. The capability of the nascent reader to employ the strategy of contextual analysis requires a facile use of the other three word recognition skills. Each of the other three word recognition skills employs, solely, intra-word analysis.
3. Contextual analysis requires cognition sufficiently advanced to be classified in Piaget's Stage of Concrete Operations. Operations of this stage are not utilized in contexts generated for employment of the other three word recognition skills.

Characteristics of Word Recognition Skills

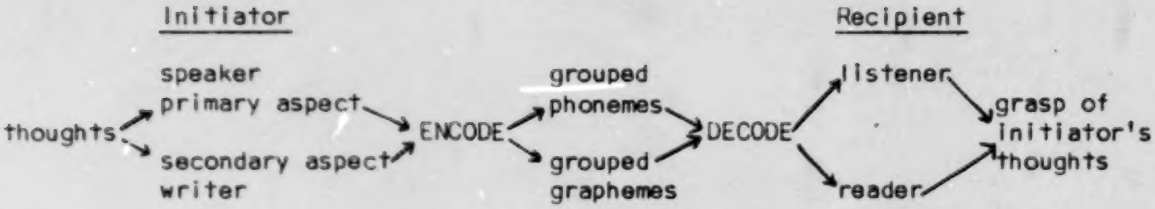
Word recognition skills are strategies used by a reader to <u>recognize</u> printed words, which when spoken, are known by the reader. The skills differ from one to the other in the methods employed for

the search for recognition. The following four classifications characterize the methods of search.

1. Visual memory (sight vocabulary). The word is memorized, not analyzed; yet, parts of the word are attended to.
2. Phonic analysis. The word is analyzed into its grapho-phonemic associations.
3. Structural analysis. The word is analyzed into units larger than grapho-phonemic associations. The two components of structural analysis are:
   a. Syllable analysis. The word is analyzed via syllabic junctures.
   b. Morphemic analysis. The word is analyzed into its meaningful units; the search for the root word and affixes.
4. Contextual analysis. The word is synthesized into the embedding context; syntactically, semantically, and then analyzed via phonics and/or structural analysis.

Readers' lexicons

All word recognition skills are employed to target only those words which are within the reader's lexicon. Lexicon is used here to mean those words found in the reader's grasp of the primary aspect of the language; the reader's speaking and listening vocabulary. The following paradigm may be helpful (Wallen, 1972).



Assume that the thoughts conveyed in the primary aspect of the language, speech, can be readily grasped by the listener. Speech, of course, uses grouped phonemes of the language which the listener decodes into recognized, familiar words. Since they are familiar, the listener's grasp would hence include meanings for the decoded words. May (1973, p. 32) corroborates this with, "Most children learning to read should already know how to pronounce the words they meet in print - that is, these words should first be made a part of their speaking vocabulary." Further substantiation is supplied by the learned opinion which follows.

> Learning to read, then, can be defined as learning to translate from written symbols (the writing system, or orthography, of the language) into that form of the language from which the child already derives meaning, most often, the spoken language.
>
> Venezky, Calfee, and Chapman, 1968.

Thus, it can be seen that "the translating, or decoding, process stands at the core of [beginning] reading." (Klausmeier & Ripple 1971, p. 371).

Decoding is the major thrust of all word recognition skills; that is, the deployment of any of the strategies to decode the printed aspect of a familiar word into the already understood spoken form. When this process is completed, meaning for the word is readily supplied by the reader since the word is part of his lexicon.

For example, a nascent reader might employ phonic analysis to translate/decode bat, if bat, once spoken, is familiar. However, if the nascent reader employs phonic or structural analysis to translate/decode persiflage, not familiar, he would obtain a string of phonemes resulting from the analysis but no recognition whatsoever; that is, the word persiflage is beyond the reader's lexicon.

The very words which were decoded and understood in the primary aspect of the language (speech), are the only targets viewed to be appropriate for word recognition skills.

Targets for Word Recognition and Contextual Analysis

Consider the use of any one of the strategies cited: visual memory, phonics, structural analysis, and contextual analysis. All target one word for the deployment of their individual strategies. That context is employed in contextual analysis could easily obfuscate the target of one unrecognized word embedded in a string of recognized words. The point being made is that contextual analysis uses the embedding sentence (or phrase if two or more words are unrecognized in the sentence) in bringing re-cognition to a given

target. The advantage of contextual analysis over the other three strategies is speed in decoding, thus recognizing, a familiar word. The advantage of speed is payment for the complexity of the thought processes involved. That is, contextual analysis requires conscious employment of syntactical structuring and semantic assessment of the context, producing constraints upon the target.

Extreme forfeit of speed is seen in the use of the dictionary skills. The coterie of dictionary skills may be categorized as a word recognition skill (May, 1973), but the interpretation of word recognition skill embraced herein is characterized by the employment of a strategy by a reader while immediately engaged in the reading act. Use of the dictionary to recognize an unrecognized word draws the reader away from the material being read. Strategies appropos are those employed during the perceptual/thinking processes operational at the actual time of reading.

Contextual analysis is a strategy employed during the actual time of reading. The use of contextual analysis to recognize a familiar, spoken word, unrecognized in print albeit in context with a string of other words, legitimately classifies the strategy as a word recognition skill. Assume a nascent reader can recognize all the words except the underlined word in the following example.

The baby fell down and cried.

The context, recognized and understood, aids the reader in

bringing correct sounds to the target. Ironically, the aid is a confinement in that the target must be an action word (verb) hence the constraint of syntax is demanded; and the semantic constraint demands that the target must relate causally to the thrust of the preceding context.

A distinction must be made regarding the use of contextual analysis to comprehend words beyond the reader's lexicon. For example, assume a nascent reader can recognize all words except those underlined in the following sentence.

> Sue walked by a field filled with buttercups, kingcups and harebells.

The context, recognized and understood, aids the reader in bringing meaning (inferred from recognition of buttercups, which is within the reader's lexicon) to kingcups and harebells, which are beyond the reader's lexicon. The use of contextual analysis to comprehend words beyond the reader's lexicon is not germane to the investigation pursued here. This use of contextual analysis for comprehension is viewed to be that bridge connecting the congeries of word recognition and comprehension.

Like the three other word recognition skills (visual memory, phonics, and structural analysis) contextual analysis targets one word, albeit in context, for recognition. Distinction was made regarding the use of contextual analysis for comprehension of words beyond the

reader's lexicon. Legitimate targets for any one of the four strategies were characterized as words being within the reader's lexicon. It is the appropriateness of targets that forms the kinship of contextual analysis to the other three word recognition skills.

Contextual Analysis Subsumes Kindred Word Recognition Skills

The second proposition of this investigation purports contextual analysis as employing a more complex method than its kindred word recognition skills in its search for recognition of a target. Whereas the reader employs the kindred word recognition skills as strategies to recognize parts smaller than the whole word as initial operations, contextual analysis demands serial thinking, accumulating information from the string of words embedding the targeted unrecognized word as a part of the strategy before one or more of the kindred word recognition skills is employed as a second strategy in the recognition of the target. Whereas the kindred word recognition skills are characterized by the methods of intra-word analysis, contextual analysis is comprised of inter-word synthesis and intra-word analysis.

Intra-word analysis

Intra-word analysis targets for recognition parts smaller than the whole word for decoding; namely, a grapheme or common combinations of graphemes. Phonemic associations are then paired to the

graphemes and the target is recognized.

Learning to decode the printed word requires either the rote association of a vocabulary word with its printed configuration or the rote association of sounds of English with the letters most often representing these sounds.

Klausmeier & Ripple, 1971, p. 375.

In the strategy of visual memory, sight vocabulary, the reader initially memorized the whole word, not analyzed it. However, he employes the search for recognition to trigger memory with configurative aspects, or silhouettes, of the word; then searches for distinctive features of the word to confirm the memory trace. For example, the perception of want as a silhouette (Tinker & McCullough, 1975) is followed by a search for distinctive features; a or e as the vowel to distinguish want from the highly similar word went (Gibson et al 1963; Samuels, 1970; Samuels, 1973).

In the strategy of phonic analysis, the reader employs the search for recognition with grapho-phonemic associations (May, 1973; Mazurkiewicz, 1976). For example bat; /b/ is associated with the b, /ă/ is associated with the a, and /t/ is associated with the t; or /b/ and /ăt/, with the respective graphemes; or the employment of any useful phonogram (May, 1973).

In the strategy of structural analysis, the reader employs the search for recognition by discerning syllabic junctures and/or the

identification of the root word and the adjacent affixes (Wallen, 1972). In the syllabic juncture instance, the search within the word rabbit would ask for the syllabic break to occur between the medial consonants, bb. In the instance of roots/affixes, the search within the word rereading identifies read as the root, re as the prefix, and ing as the suffix.

In each of the three kindred word recognition skills the method sought parts smaller than the whole word for the search for recognition. Hence these strategies employ intra-word analysis for recognition.

Inter-word synthesis: five processes

Inter-word synthesis targets the context surrounding a given unrecognized word discovered in that context. This target of the context is the initial operation of the strategy of contextual analysis in the search for recognition of the unrecognized word. The reader must decode and comprehend the components of the context as part of the strategy for the recognition of the one word, bringing to that one word the results of accumulative processes. The following processes are purported to be employed in the synthesis of the context.

1. Intra-word analysis for recognition of each word comprising the context.
2. Syntactical structuring of the words comprising the context.

During the years two to four, a child makes giant strides in mastering the intricacies of English syntax. The essence of word recognition is applicable to this competence in syntactical structuring. As the unrecognized target embedded in the context is within the reader's lexicon, so is the recognition of syntactic structures of context within his competence. That is, the nascent reader is familiar with the structures of the phrases used in English and is capable of grouping the words of the context into familiar components of syntax (Bellugi & Brown, 1964; Ervin-Tripp, 1966). Klausmeier and Ripple (1971, p. 374) support this psycholinguistic posture.

Thus, we can expect that in teaching a child to read, we do not additionally have to teach him how to talk, unless we insist on trying to teach him to read words not already in his vocabulary or sentence structures which he does not normally produce or understand.

3. Serially linking the context, denoting semantic substances between and amongst the syntactic structures.
4. Synthesis of the whole context, carrying the unrecognized word as a blank to be filled. Constraints of both syntax and semantics are brought to the target; that is, the target must "fit" the context grammatically and meaningfully.

This fourth process is similar to the cloze procedure (Bormuth, 1975). However, in process four of the strategy of contextual

analysis, the nascent reader generates the cloze-like structure as opposed to being assessed or instructed by it.

5. Intra-word analysis for recognition of the unrecognized target in context.

This second employment of intra-word analysis appears to be readily applied with dispatch if the constraints of process four are satisfied. Closure is sought and the search for parts smaller than the whole targeted word should be rapid (Miller, Bruner, & Postman, 1954).

Example: employment of the five processes

What follows is an elaboration of the suggested five processes of contextual analysis employed in recognizing an exemplified target in context.

Example:

The color of the fall leaves was like a tapestry over the hills.

Assume the target to be the unrecognized word tapestry. What must be borne in mind is that the target is within the reader's lexicon. Employment of the strategy of contextual analysis is to recognize the target, decode it; meaning is implicit.

Process one: intra-word analysis of context. In employing process one, the reader uses one or combinations of the kindred word recognition strategies (visual memory, phonics, structural analysis) for intra-word analysis to recognize all of the words preceding and

succeeding the target, tapestry. That is, he not only decodes rapidly The-color-of-the-fall-leaves-was-like-a _____ over-the-hills, but also supplies meaning for the words since they are within his lexicon.

Process two: syntactical structuring of context. In grouping the components of the context into familiar phrases, the reader does not consciously name the relationships with grammatical nomenclature as indicated below. Indeed his knowledge may be void in this respect. This void is certainly true for the nascent reader; perhaps it is equally void for some proficient readers as well. More important and to the point, the reader's competence is brought to bear on the context and helps him connect the words into familiar phrases.

The color are linked by the modifier/noun relationship.
of the fall leaves are linked in a prepositional phrase.
was is the verb; singular, thus linked to color and not to leaves.
like a _____ are linked in a prepositional phrase.
over the hills are linked in a prepositional phrase.

Process three: denotation of semantic aspects of syntax. The third process of serially linking the context with semantic substance crystallizes the search for the unrecognized word. Since all of the words of the syntactic structuring were within the reader's lexicon, semantic aspects are readily denoted between and amongst the syntactic structures. Not only lexical meanings for the words are noted,

but more importantly, specificity of meaning dictated by the constraints of syntax must be noted.

> The color. The denotes definiteness in a collective sense. The color is viewed as a whole, not the many different colors within view.

Try substituting other modifiers and note the change in meaning between modifier/noun; e.g. A color, This color, That color. The resulting subtle changes of meaning were not intended in the statement.

> of the fall leaves. This prepositional phrase describes the color in autumnal tones. An emerging semantic constraint is clued towards the target. Earth colors are the foci of comparison, not the newly minted green of spring nor the lushness of summer.

Neglecting the grasp of the prepositional phrase's relationship to color would lose the underscoring of color. If the reader erroneously linked color and fall leaves as appositives, such as "The color, the fall leaves . . ." shapes, textures, masses of leaves could be interpreted as emphasis and the simile written would prove to be poor, or at least weak.

Further, if The color was erroneously pluralized to agree with leaves, such as, "The colors of the fall leaves . . ." a verb change would be necessary and the collective sense of color is lost.

was. The verb denotes the factor of time. The statement is already in memory and is being recalled.

The verb and its agreement in number to color rather than leaves is crucial. Another important constraint is also added to the search for recognition of the target tapestry; that is, the singularity of the verb connects the target to color and not to leaves.

like a _____. This prepositional phrase denotes the comparison of The color to something else, the target. The singular verb, was, is the link.

If the first two words, like a, of the phrase were ignored, not related to the entire phrase which completes the comparison made to The color, the semantic substance could be misinterpreted regarding the unrecognized word. In other words, the unrecognized target might be considered to be adjectivally descriptive, such as "The color of the fall leaves was topaz." a meaning not intended.

over the hills. This prepositional phrase denotes direction.

What was over the hills? can be answered by the denoted meanings of The color and is complement, like a _____.

Process four: synthesis of context, generating cloze-like structure. The fourth and most important process is now employed. Via the interrelationships of syntactical structuring and semantic denotations, the reader must form the thrust of the statement. He must synthesize

the parts to be a statement (the whole) about color, in the fall, in the past, and viewed from the distance. Only after these thoughts have been processed into a collective whole with a missing piece, could the reader begin to deduce the relationship between like a _____ and The color.

The constraints of syntax and semantics upon the cloze-like structure generated by the reader himself, compels him to search for recognition of the target seeking compatibility with the complementary demand clued by the syntactical structure like a _____, and the semantic comparative demand produced by the meaning of the nub of the sentence, The color . . . was like a _____.

Process five: intra-word analysis of the target. The parts of the context have now been synthesized and the fifth process is employed. Intra-word analysis is employed for the second time, carrying with it the constraints of syntax and semantics. Closure is sought and the kindred word recognition skills of phonics and or structural analysis are again employed to meet the last step. Obviously visual memory of the unrecognized target is inappropriate since the reader failed to recognize the word at the start. The reader must search with the remaining kindred strategies. However, he is helped with the constraints of syntax and semantics of the context. He has earned his help.

The reader may erroneously attack the target with morphemic analysis, such as "tap is the root word." However, the succeeding

graphemes, e s t r y, remain alien to the bank of common endings, suffixes. Hopefully, the reader would employ syllabic analysis before phonics. The preference suggested utilizes larger portions of the target than would phonic analysis. However, syllabic analysis could easily lead the reader astray; for example, the first medial consonant p is not coupled with another consonant. Thus the syllabic break can be before or after the p producing tā or tăp as the first syllable. In either case, the remaining two syllables readily lend themselves to syllabic juncture. Since tr is recognized as a common blend (a result of facile use of phonics) it would act as a single consonant. The target is now decoded as tā/pĕs/try or tăp/ĕs/try. Assuming the word tapestry is in the reader's lexicon, the memory bank of the reader produces a trace of past experience with tapestry, selecting the correct pronunciation of the two options generated and, of course, the meaning should surface with the re-cognition. The decoded word now looms to consciousness with the meaning, "a heavy handwoven textile used as a wall hanging" and is thus satisfying the syntactic and semantic constraints demanded by the context. Note the figurative leap now demanded for meaning beyond the lexical or literal meaning of the target. The reader must transform the memory trace of the literal object, wall hanging, to the figurative use of it in the given context; that is, the simile comparing the color of the fall leaves to a woven work of art. Here, meaning leaps from denotation to connotation.

It is hoped that the foregoing has demonstrated that contextual analysis is a complex word recognition skill. The strategy is complex in demanding syntactical structuring, semantic assessment, and the synthesis of these processes generating a cloze-like structure embracing the target as a blank; in short, inter-word synthesis. Further, contextual analysis as described, subsumes the facile use of all kindred word recognition skills, visual memory, phonics, and the two components of structural analysis. Subsumption of the kindred strategies was evidenced by the deployment (with ease) in processes one and five described above. In comparison, the kindred word recognition skills remain limited to intra-word analysis, focusing on parts smaller than the whole word for recognition. Hence they can be classified as lesser-ordered than contextual analysis.

Piaget's Stage of Concrete Operations Related to Contextual Analysis

The third proposition of this investigation purports contextual analysis to require cognition advanced enough to be classified in the Stage of Concrete Operations of Piaget's paradigm of mental maturity. This stage of growth in cognitive development occurs approximately between the ages of seven and eleven. At this stage,

> The child may be able to perceive relationships between factors when they are presented to him, but he finds it much more difficult

to arrange situations ahead of time so that they will reveal the relation between factors.

Baldwin, 1967, p. 193.

Deductive reasoning is now possible although the starting point for thinking is always the real.

Evans, 1971, p. 207.

Contextual analysis involves deductive reasoning, syntactically, semantically, and via phonic clues (May, 1973) in order to recognize a given word discovered in context. The starting point for thinking is the real in the reading act in that the reader perforce must embrace past experiences with words to know they are written/spoken symbols of names of things and actions, not the things or actions themselves. This is an assumption taken for granted regarding the child at the stage of concrete operations and the word, written and spoken.

Three specific operations characterizing this stage of cognitive development are seen to apply to the employment of the strategy of contextual analysis. The operations in mind are: transivity, combinativity, and the second meaning of reversibility.

Transivity

Transivity involves making inferences about the relations among actual objects. In contextual analysis, the case in point regarding

actual objects are the words of the context and the blank, the unrecognized target. The logical rule of transivity permits the passage of thought from one state or point to another along a conceptual continuum. Although Piaget remained restricted to mathematical concepts, this logical thought process appears to be applicable to the processes involved in contextual analysis. The mathematical example of this operation is: if $x > y$, and $y > z$, then $x > z$. Thus serial ordering or seriation may be performed. As demonstrated earlier in the second proposition of this investigation, process three (p.15), serial ordering was required in order to link the syntactic structures discerned with semantic substance.

> The color of the fall leaves was like a tapestry over the hills. (Hereafter this example will be referred to as Example 1.)

The relationship of semantic weight of emphasis of the syntactic components in contextual analysis reflects the serial operation of transivity. The color and of the fall leaves express the logical ordering in mind. The weight in emphasis, which semantically rests upon The color, assesses of the fall leaves as less weighty in the progression of reading toward the verb was. This emphasis must be reached in order to satisfy the agreement of was to The color and not to leaves. Thus, it can be seen that serial thinking is involved in this example of contextual analysis.

Combinativity

The second important concrete operational ability involved in contextual analysis is class inclusion of combinativity. This is seen applicable with regard to part-whole relationships; the part(s) and the whole can be thought about independently. The processes of contextual analysis express the need to think about the part(s), namely, syntactic structures, with regard to the whole context. Most pertinent, the unrecognized target, like a _____ of Example 1, must be thought of as a part that must complete the whole statement. The completion is closure carrying syntactic and semantic demands.

Reversibility

The third operation critical to logical thinking developed in the concrete stage of cognitive growth is reversibility, to which a dual meaning is assigned. First, that for every action there exists one which cancels it, and second, that one can return to the original starting point of a thought sequence devoted to problem solving (Evans, 1971, p. 210). It is the second meaning of this operation that is required in contextual analysis.

The strategy of contextual analysis, process four (p. 17 & p. 18) requires reversal of the thought processes previously performed. In Example 1, process four required the reader to return to the beginning noun phrase, The color, and progress forward again, selec-

tively, to link that structure to the verb was, and then to the complement, like a _____, in order to grasp the nub, or kernel, of the sentence. The kernel generates the cloze-like structure needed for deducing the syntactical and semantic constraints of the target, tapestry. Note that process four is suggested to occur after syntactical structuring and semantic assessment of the syntax. The ability to reverse the thought process back to The color, its emphasis (transivity) and not erroneously select leaves, is crucial in bringing constraints of grammaticality and meaning to aid the reader in correctly re-cognizing the target.

Further observation regarding the constraints of syntax and semantics upon the target might suggest that the reader reverse the presented order of the syntactical structures of the kernel. For example:

from: The color was like a _____.

to: Like a _____ was the color.

Concrete Operations Not Related to
Kindred Word Recognition Skills

In contrast to the logical operations involved in contextual analysis, consider the pedagogy and thought processes of the reader involved in the apparent use of contextual analysis emanating from any one of the less complex word recognition skills. If one begins from scratch, e.g. the reading ability of the naive reader,

a word targeted for recognition would more effectively be presented in isolation rather than in context, since the reader cannot recognize any word in print (Singer, Samuels, & Spiroff, 1974; DeBoer & Dallmann, 1964). If pedagogy insisted upon initially presenting the target in printed/written context (May, 1973; Tinker & McCullough, 1975) interchanges, with slight variations, delineated below are still applicable. Regardless of which of the kindred word recognition skills is used, visual memory, phonics, syllabic or morphemic analysis, the procedures for teaching/learning would approximate what follows.

Pedagogy Generating Context

Intra-word analysis is employed (taught) with the objective of aiding the learner to associate phonemic counterparts to the represented graphemes of the target. To enhance further the recognition of the target, good pedagogy suggests that the target be embedded in context (Tinker & McCullough 1975; Miller et al., 1954). Context so developed would be generated by the teacher, not discovered by the reader while intimately engaged in the reading act. Context so developed would serve as reinforcement for the initial coaxing of a given word recognition strategy. Context so developed would usually be thin in texture and would be generated to expound the mere lexical meaning of the target.

Take for example, tapestry as the target. If, for some bizarre

reason this word would be targeted for recognition for the naive reader, intra-word analysis would be most likely employed, not contextual analysis. The bizarre reason becomes a plausible situation in the instance of Ashton-Warner's organic vocabulary approach (Ashton-Warner, 1966). Since the learner in mind is a naive reader, visual memory appears to be the most viable strategy for the initial teaching/learning of the word. Assuming some alphabet knowledge and other appropriate reading readiness factors such as left to right orientation have been accrued, pedagogy might well direct recognition to visual, configurative clues: initial, medial, and terminal features, t, p, and y. Articulatory/auditory associations might next be explored to aid the sketchy, initial, visual recognition. .Context is then generated by the teacher to aid further the recognition that has already begun. Context so developed perforce must be thin in texture and purposefully designed to lock meaning into the word, such as:

> A tapestry is a picture made with cloth. (Hereafter this example will be referred to as Example 2.)

Even as thin and hopefully helpful the context generated might be, the learner would be hard pressed to bring recognition to the target and the words of the embedding sentence (Singer et al., 1974). However, the point explored is that the teaching/learning processes engaged in the employment of visual memory (likewise phonics and structural analysis) begin with intra-word analysis for the targeted

word and the subsequent context is generated for the target rather than discovering the target in context during the perceptual/thinking processes operational at the actual time of reading. The discovery phenomenon is true in the employment of contextual analysis.

The generated context does not require the reader to apply transivity to recognize tapestry in Example 2. The reader is not required to weigh the emphases of meanings of the words in the given context. Seriation is not applicable in the recognition of tapestry since the target has already been recognized before the context was generated.

The second concrete operation ability of combinativity required in contextual analysis is not employed in recognizing tapestry in Example 2. Granted, the purpose for generating the context was to aid the reader in visually discriminating the target embedded in its meaningful context, but the reader is not required to grasp the meaning of the context in order to supply syntactical and semantic constraints upon tapestry.

The third concrete operation critical to logical thinking was suggested to be a requirement of contextual analysis, namely, reversal of thought process in order to link the unrecognized target to the beginning noun phrase in Example 1; that is, to generate the cloze-like structure. In Example 2, the generated context, the reader would rarely be asked (by the teacher or himself) to return to the beginning of the sentence in order to recognize tapestry. It is

doubtful that the reader would link, syntactically, tapestry and picture made with cloth: the latter being a verb phrase completing the initial thrust, A tapestry is. Again the purpose, a legitimate one, for generating the context in Example 2, is good pedagogy and would indeed reinforce the recognition begun via intra-word analysis. However, the purpose and thought processes involved do not include the logical operation of reversibility.

Apparent Use of Contextual Analysis in Contemporary Reading Program. Some reading programs, Reading Unlimited (Scott, Foresman, and Company, 1973) a case in point, appear to utilize the discovered context surrounding a target: for example, Level Two, "The Bus Ride." However, in lieu of intra-word analysis, the pedagogy suggested relies heavily on pictorial clues and rote memory of the embedding context, not the recognition of the individual words comprising the context.

Context A: A _____ got on the bus.

Context B: Then the bus went fast.

Context A appears on the left hand page. A picture of a girl getting on a bus, door opened, appears above the line of words printed on the bottom of the page. Hence the word girl appears in the blank above. Context B appears on the adjacent right hand page. A picture of a moving bus, door closed, girl inside, appears above the line of words printed on the bottom of the page. Each successive

pair of pages (pp. 2-22) repeats the exact Contexts A and B substituting a new target, pictorially depicted, for the blank indicated in Context A above. Recognition for the new target obviously relies on the new picture appearing on that page. Nascent readers were observed, not infrequently, to attend solely the picture on the left hand page and merely to parrot the memorized, seemingly recognized, Contexts A and B.

In this example of the apparent use of contextual analysis, neither intra-word analysis nor inter-word synthesis is employed by the reader. It is doubtful that visual memory is employed by the nascent reader in recognizing the actual targeted words, let alone the words of the contexts, repeated ten times in the one book. What might occur is rote, auditory memory of the context, initially produced by the teacher. After the brief, melodious, context has been memorized, the "reader" need only employ visual discrimination of the pictorial clues to "recognize" targeted words and the words of the context. The reader is not required to use the operation of transivity to assess the emphasis of one word juxtaposed to others. The reader merely supplies a substitution, clued pictorially. Combinativity, part to whole, is not operational since any new target, clued pictorially, is syntactically identical to the initial pattern, assertedly memorized; that is, the position of word order of the target to the context. Reversibility is not required. In "reading"

pages 2 and 3 (or any other pair incorporating the sequence of Contexts A and B above) the reader's thoughts move in one direction, programmed so to speak. The one direction is repeated for the oft-repeated contexts in the subsequent pairs of pages up through pp. 21-22.

Summary of Investigation

This investigation of contextual analysis sought to rank this strategy as the most complex of the word recognition skills. That contextual analysis is a word recognition skill has been demonstrated by underscoring its kinship to the lesser-ordered kindred skills. That kinship included employment of all four strategies to re-cognize a word, familiar in the spoken form of the language but not recognized in the written form of the language. All four strategies seek decoding of the targeted unrecognized word. Further, the kinship included the reader's strategic employment of all four skills to recognize a target while intimately engaged in the perceptual/thinking processes operational at the actual time of reading; the reader's grasp of the meaning of the target is implicit. Contextual analysis' advantage of speed in decoding was pointed out. The advantage was earned by the payment of complexity of thought processes involved.

The kindred, word recognition skills were characterized as employing intra-word analysis as strategies. Parts smaller than the

whole word were targeted for analysis. The complexity of thought processes demanded in contextual analysis was characterized as inter-word synthesis. Inter-word synthesis was defined to include five thought processes: 1) intra-word analysis for recognition of each word comprising the context, 2) syntactical structuring of the words comprising the context, 3) serially linking the context, denoting semantic substances, 4) synthesis of the whole context, generating the cloze-like structure which in turn produced syntactic and semantic constraints upon the unrecognized target, 5) intra-word analysis employed a second time to recognize the target itself: constraints of #4 must be satisfied. Contextual analysis demanded the facile use of the lesser-ordered, kindred, word recognition skills for processes #1 and #5. Hence contextual analysis can be viewed as subsuming their methods of recognition as part of its strategy.

Piaget's paradigm of cognitive development was called upon to explore the logical thought processes involved in contextual analysis. Transivity was purported to be required in contextual analysis in order to serially assess the semantic emphases of syntactic structures of a context. Combinativity was submitted to be involved in contextual analysis in order to think about the part(s)/whole relationships of syntactical structures (parts) to the context (whole). Reversibility, its second meaning of reversing a thought process in problem solving, was asserted to be applicable in contextual analysis in order to generate the cloze-like structure necessary to sat-

isfy the syntactic and semantic constraints upon the target. These three concrete operations were not seen to be operational in contexts generated in the employment of the lesser-ordered, kindred word recognition skills nor in the apparent use of contextual analysis as demonstrated in "The Bus Ride."

Hence contextual analysis' payment for speed in decoding, its complexity of thought processes subsuming the strategies of the lesser-ordered, kindred word recognition skills, and incorporating the three cited concrete operations can be viewed as the rationale for ranking this strategy as the most complex of all the word recognition skills.

Invitation to Research

Since this investigation is descriptive of a viewpoint not empirically substantiated, the following questions appear to be pertinent. Hence, research is invited to seek precise hypotheses and empirical evidence for the propositions and assertions advanced.

1. Does the complexity of contextual analysis explored herein subsume all three lesser-ordered word recognition skills: visual memory, phonic analysis, structural analysis?
2. Are there two functions of contextual analysis?
   a) Contextual analysis is used to recognize a familiar word in context.

b) Contextual analysis is used to infer meaning for an unfamiliar word in context.

Does the second function require mastery of the first?

3. Does a reader using contextual analysis accurately decode a targeted word discovered in context with greater speed than a reader using one of the lesser-ordered word recognition skills?
4. Are there five processes used in inter-word synthesis?
   a) Intra-word analysis for the recognition of words comprising the context.
   b) Syntactical structuring of the words comprising the context.
   c) Serially linking the context, denoting semantic substance between and amongst the syntactical structures.
   d) Synthesis of the whole context, producing syntactic and semantic constraints upon the resultant cloze-like structure.
   e) Intra-word analysis employed a second time to recognize the target: constraints of (d) must be resolved.
5. Is the stated order of the five processes used in inter-word synthesis rigid?
6. Are the applications of the operations, <u>transivity</u>, <u>combinativity</u>, and <u>reversibility</u> to contextual analysis valid?

7. Do the generated contexts for employment of the lesser-ordered word recognition skills require transivity, combinativity and reversibility?
8. Is contextual analysis utilized in identical, oft-repeated contexts wherein substitution of the target is pictorially clued and is in the identical syntactic position with the contexts?
9. In oft-repeated identical contexts, does the nascent reader attend the individual words of the contexts? Does the nascent reader memorize the oft-repeated, identical contexts?
10. Are the operations, transivity, combinativity, and reversibility employed in reading oft-repeated, identical contexts?

Empirical evidence, resultant of the suggested research, can prove to be beneficent. If the research supports the propositions and assertions submitted in this investigation, pedagogical implications would indeed suggest the teaching/learning of contextual analysis as an advanced reading skill for the nascent reader. A corollary to this higher, rank ordering of contextual analysis would be the release of a burden too heavy to be borne by some nascent readers who are experiencing difficulty in the beginning stages of formal reading instruction. That difficulty, could, in part, be attributed to the complexity of contextual analysis, advanced too

soon upon the nascent reader.

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